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A DEMOGRAPHIC STUDY OF THE DISABILITY RATE IN NOVA SCOTIA

THE DISABLED PERSONS COMMISSION

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TABLE OF CONTENTS

Background.....pg 3

Why Study the Disability Rate.....pg 4

Demographics of Disability in Nova Scotia.....pg 4

Methodology.....pg 9

Results.....pg 9

Summary and Conclusions.....pg 18

Recommendations.....pg 21

References.....pg 22

Appendix A
Additional Tables .....pg 24

Appendix B
Categories of Disabilities.....pg 35

Appendix C
Definitions of Disability.....pg 37

Appendix D
Severity Levels of Disability.....pg 39

Appendix E
Definitions of Work Injuries and Diseases .....pg 41

BACKGROUND

According to the most current figures available from the Health and Activities Limitation Survey carried out by Statistics Canada, there were 4,184,685 persons with disabilities in Canada in 1991. This represents 15.5 percent of the Canadian population. The comparable figures for Nova Scotia in 1991 were 189,455 persons, or 21.3 percent of the Nova Scotia population, a significantly higher rate than the Canadian average. In fact, the disability rate for Nova Scotia was higher than any other province in Canada, and almost 6% higher than the national average. In addition, the results of the 1986 Health and Activities Limitation Survey showed similar results with Nova Scotia having a disability rate of 16.9 percent more than 3.7 percent higher than the 1986 Canadian rate of 13.2 percent.

In 1997, in response to a request received from the Nova Scotia League for Equal Opportunities, the Health Information and Evaluation Section of the Department of Health allocated some resources to investigate the high rates of disability in Nova Scotia. From this investigation the Department of Health released a report entitled "Disability Profiles for Nova Scotia and Canada: Why the Discrepancy?". The purpose of this study was to investigate the reasons for the high rates of disability in Nova Scotia and to determine, if possible, policy directions from the results. Specifically, the objectives of this report were: 1) to confirm the high rate of disability in Nova Scotia 2) to determine the components contributing to the high rate of disability 3) removal of the age bias factor to determine a less biased disability rate and 4) an exploration of why potential causes lead to the high disability rate in Nova Scotia.

In general, the results of the Department of Health report stated that although Nova Scotia does have a higher disability rate than the other provinces in Canada ," it was not possible, to suggest why the rates were so much higher" although it was likely that the rate of mobility disability is truly higher in Nova Scotia than in the rest of Canada. The report concluded, that despite the information currently existing on persons with disabilities, that without good evidence of what is contributing to the high rates of disability in Nova Scotia, it was difficult to formulate a plan of action to reduce the incidence of disability. Finally the report noted that more study was needed to provide clear reasons for the observed differences in disability rates.

Following the release of the report by the Department of Health, the Disabled Persons Commission meet with the Department of Health to discuss the results of the study and to determine if there were any other means or methods of approaching the problem. These meetings resulted in the establishment of a sub-committee between the Department of Health and the Disabled Persons Commission. The role of the sub-committee was to contact Statistics Canada and to request special data analysis to be conducted on the Health and Activities Limitation Survey at the design of the sub-committee. It was believed that since most of the information collected by Statistics

Canada in the Health Activities Limitation Survey had not presently been analyzed or published, that the data may contain information that would help resolve some the questions around the disability rate in Nova Scotia.

Why Study the Disability Rate in Nova Scotia

In keeping with its mandate to advise government on the needs and abilities of persons with disabilities in Nova Scotia, the Disabled Persons Commission examines and reports on demographic information as it pertains to persons with disabilities. Although Statistics Canada has collected a considerable amount of information on persons with disabilities in Nova Scotia and Canada, no attempt had been made prior to this project to look at the possible causes for the regional differences in the disability rate.

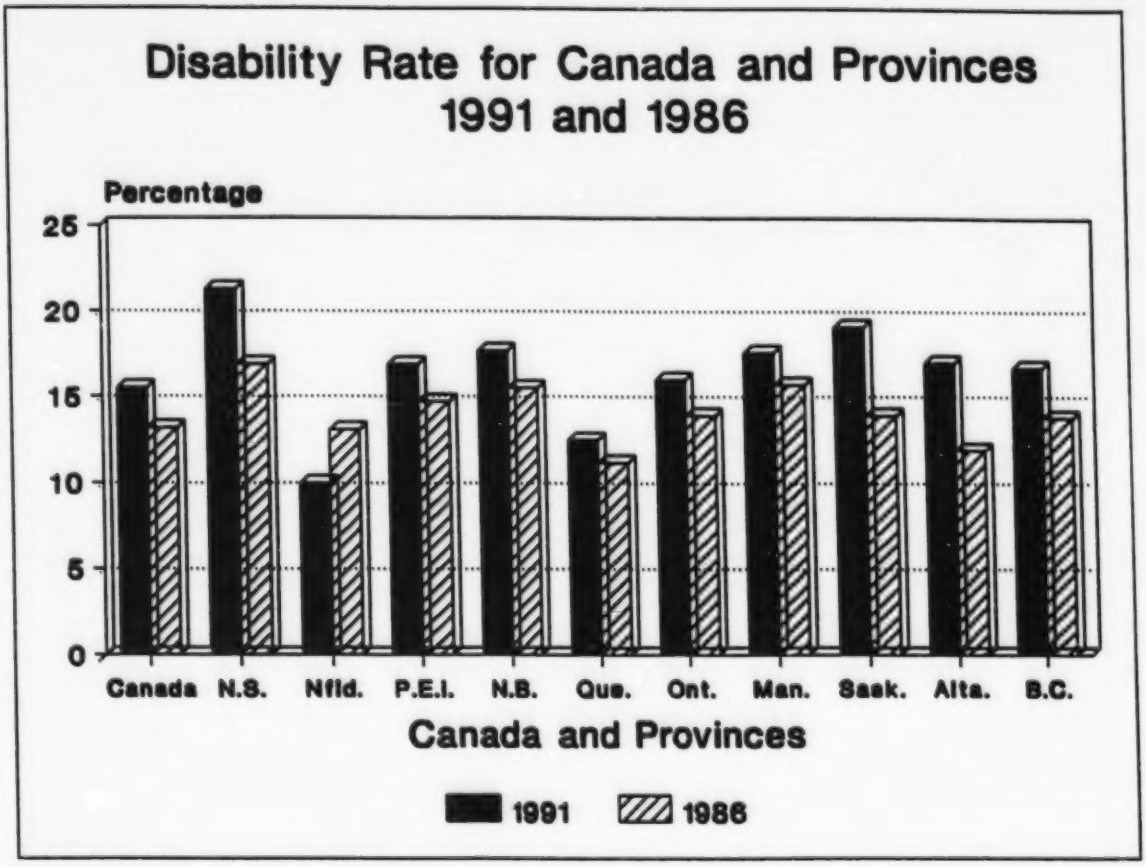
The need and importance for this information cannot be over estimated for Nova Scotia and Canada. As noted earlier, the Health and Activities Limitation Survey, has reported that Nova Scotia has the highest disability rate in Canada at 21.3 percent of the population or 189,455 persons. In addition, it has been estimated by Statistics Canada that this number will grow to approximately 32 percent of the Canadian population by the year 2020. This means that at least one in three Nova Scotians will have a disability by the year 2020.

With such a large and growing number of persons with disabilities in Canada, access to information about the needs and concerns of persons with disabilities is essential for both Federal and Provincial Governments and disability related organizations in developing policies and programs for persons with disabilities. This demographic information is used on a daily bases by government and organizations for assistance in planning social service programs, employment services, transportation needs, special education services, and health care programs to name just a few. In addition, a through understanding of the causes of the high rate of disability in Nova Scotia may help in formulating a plan of action for reducing the disability rate in Nova Scotia.

Demographics of Disability in Nova Scotia: What is Currently Known

According to the 1991 Statistics Canada census figures, there were 4,184,685 persons with disabilities in Canada. This represents 15.5 percent of the Canadian population (Figure 1). The comparable figures for Nova Scotia in 1991 were 189,455 persons, or 21.3 percent of the Nova Scotia population. This disability rate for Nova Scotia was higher than for any other province in Canada, and almost 6% higher than the national average. It was also higher than the 1986 rate by 4.4 percent.

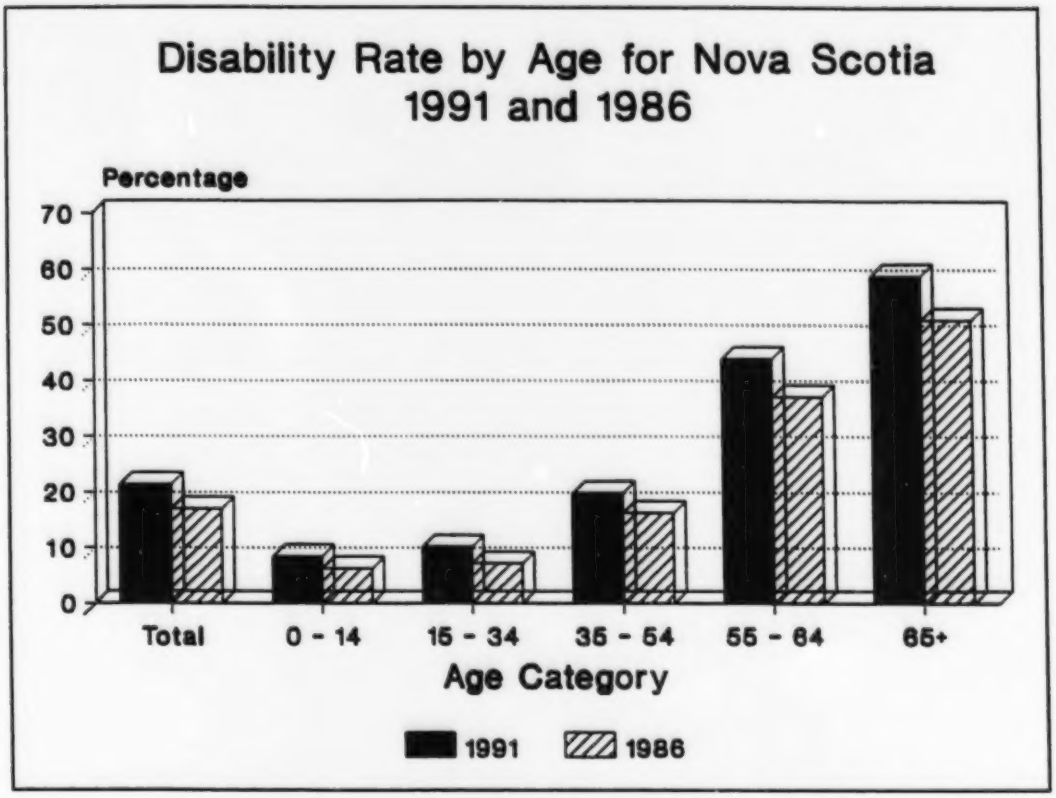
FIGURE 1



In addition, recently released figures from Statistics Canada indicated that 27.5 percent of the Aboriginal population in Nova Scotia reported having a disability, while a total of 60.5 percent of the Aboriginal population over 55 years of age reported having a disability.

Of those reporting disabilities in Nova Scotia in 1991, 52.6 percent were female (99,685) and 48.0 percent were male (89,770). There were 15,275 children between 0 to 14 years of age with a disability, 108,135 persons between 15 and 64 years of age, and 66,045 persons 65 years of age and over reporting a disability. Increases in the disability rate in Nova Scotia are consistent across all age categories from 1986 to 1991 (Figure 2). In addition, 95.8 percent of persons with disabilities in Nova Scotia resided in households, which meant that only 4.2 percent resided in institutions.

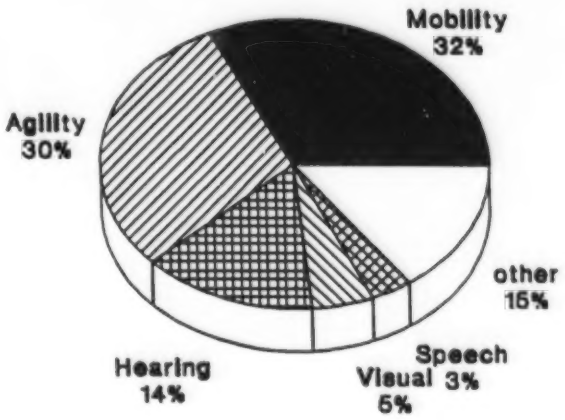
FIGURE 2



For persons with disabilities between 15 and 64 years of age in Nova Scotia in 1991, 63,225 reported a mobility impairment; 59,230 an agility impairment; 28,655 a hearing impairment; 10,250 reported a visual impairment; and 6,770 had a speech impairment (Figure 3). Regarding the level of severity of disability, 46.5 percent were rated as having a mild level of disability, 36.0 percent a moderate level and 17.5 percent had a severe level of disability.

Of the 15,275 children in Nova Scotia with a disability, 17.7 percent had hearing difficulty, 17.1 percent had reported speech difficulty, and 10.3 percent had some visual difficulty. In addition, for 43.9 percent of the children, daily activity was limited by their disability; 18.3 percent attended special classes/school, and 12.4 percent utilized some type of technical aid.

Figure 3
Nature of Disability in Nova Scotia 1991



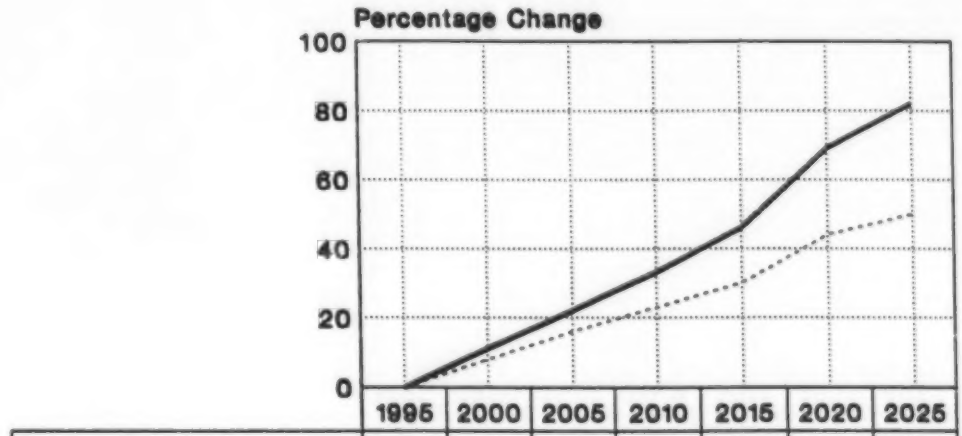
Nova Scotia (15 - 64 years of age)

In Nova Scotia in 1991, 41.1 percent or 43,715 persons with disabilities reported being employed as compared to 67.8 percent for persons without disabilities. When asked about the impact that their disability had on employment, 25 percent stated that they had been refused employment in the past; 17 percent reported being refused a promotion; while 22 percent stated they had been dismissed from their job because of their disability. More than 16 percent of persons with disabilities reported that they felt that their employer considered their disability to be a disadvantage in the workplace.

With respect to education, the percentage of persons with disabilities in Nova Scotia that reported having a university degree in 1991 was 4.9 percent (down from 5.4 percent in 1986) as compared to 13.5 percent for persons without disabilities. In addition, 20.8 percent of persons with disabilities reported having a certificate or diploma as compared to 25.1 percent for persons without disabilities.

According to Statistics Canada data the number of adults with disabilities in Canada is expected to increase from 3.8 million in 1995 to 6.9 million in 2025. This represents an increase of 82 percent as compared to 50 percent for the general population between 1995 and 2025 (Figure 4).

FIGURE 4



	1995	2000	2005	2010	2015	2020	2025
Total Pop. % change -----	0	8	18	23	30	44	50
Disabled Pop. ' ——	0	11	22	33	46	69	82
Total Pop. (million)	22.2	24	25.7	27.4	28.9	32	33.3
Disabled Pop. '	3.8	4.2	4.8	5.1	5.8	6.4	6.9

Year

In addition it has been estimated that Persons with disabilities who are 65 years of age and over are expected to increase from 1.38 million in 1995 (accounting for 36 percent of all persons with disabilities) to 3.3. million in 2025 (accounting for 47.8 percent of all persons with disabilities).

METHODOLOGY OF THE STUDY

The majority of graphs and tables presented in this report were obtained from both the 1986 and 1991 Health and Activities Limitation Survey data base from Statistics Canada. Much of this information is new, unpublished data which was obtained by special request by the Disabled Persons Commission from the Ottawa special analysis division of Statistics Canada. In addition to the Health and Activities Limitation data, information was also obtained from the National Population Health Survey and the National Work Injuries Statistics Program. The data on National Work Injuries was provided by the Association of Workers' Compensation Boards of Canada.

It is important to note that the data provided in the graphs and tables of this report should be interpreted with caution, since the sample sizes collected in Nova Scotia by Statistics Canada were limited in size for the 1986 and 1991 Health and Activities Limitation Survey. This therefore placed limits on the validity and depth of information that could be obtained from the data. The actual sample sizes for the Health and Activities Limitation Survey were 13,578 for 1986 and 12,650 for the 1991.

RESULTS

A High Disability Rate in Nova Scotia?

As noted earlier, Statistics Canada reported from the Health and Activities Limitation Survey, that Nova Scotia has the highest disability rate in Canada in 1991 at 21.3 percent of the population or 5.8 percent higher than the Canadian average of 15.5 percent. Although Statistics Canada is a convincing source of data for all of Canada, the sample size or number of surveys collected in Nova Scotia in 1991 were of a limited in number. Considering the small sample size, one may question if Nova Scotia really does have as high rate of disability as has been previously reported? Although it is true that the Health and Activities Limitation Survey involves the most rigorous questioning to determine disability and consequently provides the most definitive estimate of the prevalence of disability in Canada. There are, however, other independent sources of information on disability that can be utilized to increase the validity of the existing information.

Other additional sources of information used in the study included the 1986 Health and Activities Limitation Survey, the 1991 and 1996 Canadian census and the National Population Health Survey. Because the Census employs a different definition of disability, uses a different methodology and relies purely on self identification; fewer persons in general tend to report that they are disabled. Despite this fact, the disability rate for Nova Scotia as determined from the Census data was, as

expected, the highest of any province for both the 1991 and 1996 Census years. In 1991 for example the rate was 8.4 percent for Canada and 11.3 percent for Nova Scotia. By 1996 the Canadian rate had risen to 10 percent and the Nova Scotia rate increased to 13.8 percent.

In addition to the Canadian Census data, the prevalence of disability was also estimated based on several questions contained in the National Population Health Survey. In the 1994-95 National Population Health Survey, about 20 percent of adult Canadians and 27 percent of Nova Scotians indicated that their "activities were in some way restricted due to a long term physical or mental condition". In the 1996-97 National Population Health Survey 14.8 percent of Canadians and 22.1 percent of Nova Scotians remaining in the National Population Health Survey panel responded that they had some "activity restriction". In the 1994-95 National Population Health Survey 14.5 percent of Canadians and 21.4 percent of Nova Scotians responded that they had a "handicap or long-term disability". In 1996-97 10.6 percent of Canadians and 17.8 percent of Nova Scotians responded affirmatively to the same question. On all of the National Population Health Survey measures, Nova Scotia registered the highest rate of any province.

These results clearly indicate that by way of four different methodologies (sets of questions or instruments) that Nova Scotia has the highest provincial disability rate in Canada. In addition, the fact that these results have been replicated twice for each methodology provides strong evidence that disability, however measured, is in reality more common in Nova Scotia than in the rest of Canada.

Disability by Geographical Area in Nova Scotia

Given that Nova Scotia does have a considerably higher rate of Disability than the rest of the Canada, one may ask how is the rate of disability distributed across Nova Scotia. Do all geographical areas of Nova Scotia have equal rates of disability or are there areas of high and low rates across the province? If the latter is true, it may have implications for policy and program development in areas of higher rates such as transportation and health to mention only a few.

Table 1 provides an analysis of the disability rate in Nova Scotia by federal electoral areas from the 1991 HALS database. These results clearly show that the disability rate is unevenly distributed across Nova Scotia with rates ranging from a low of 11.3 percent in Dartmouth to a high of 29.6 percent in Cape Breton (The Sydneys). As indicted in Table 1, Halifax (14.6 percent) Halifax West (11.8 percent) and Dartmouth (11.3 percent) were exceptionally low areas of disability rate being well below the Canadian average of 15.5 percent. In contrast, all other areas of the province were considerably higher than the Canadian average with Cape Breton (the Sydneys) 29.6 percent and Southwest Nova at 28.4 percent being

exceptionally high. These results suggest that almost one in three persons in these areas have reported having some level of disability.

TABLE 1
POPULATION OF NOVA SCOTIA, ALL AGES, FOR FEDERAL ELECTORAL AREAS

TOTAL, ALL AGES

AREA	TOTAL		DISABLED		NON-DISABLED	
Annapolis Valley Hants	105,575	100.0	23,795	22.5	81,785	77.4
Cape Breton East Richmond	59,180	100.0	14,540	24.5	44,635	75.4
Cape Breton Highlands-Canso	60,600	100.0	13,395	22.1	47,205	77.8
Cape Breton The Sydneys	59,625	100.0	17,655	29.6	41,970	70.3
Central Nova	94,410	100.0	23,075	24.4	71,330	75.5
Cumberland Colchester	85,140	100.0	20,330	23.8	64,810	76.1
Dartmouth	102,935	100.0	11,710	11.3	91,225	88.6
Halifax	85,690	100.0	12,520	14.6	73,170	85.3
Halifax West	103,645	100.0	12,275	11.8	91,370	88.1
South Shore	74,705	100.0	18,110	24.2	56,595	75.7
South West Nova	49,500	100.0	14,060	28.4	35,440	71.5

In addition, data were collected for all Federal electoral areas over three predetermined age categories to investigate if the rates of disability would vary based on different age groupings. Age categories consisted of children 14 years of age and under, adults 15 to 64 years of age and seniors 65 years of age and over (see Appendix A for Tables[1] 1-3). As one would expect, the rate of disability increased significantly with age in all geographical areas of the province without exception.

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[1] These results should be interpreted with caution since cross tabulation of two variables i.e. geographical area by age may go beyond the limits of the data predictability.

Although some variability was observed in the 14 years and under and 65 years and older , the rates of disability remained reasonably constant by area suggesting that low and high rates of disability were independent of age.

Demographics of Disability in Nova Scotia

In addition to investigating the validity of the disability rate and the geographical distribution, the study attempted to identify any demographic factors of disability in Nova Scotia that would help to explain the high Nova Scotia rate. In particular, the study attempted to determine if there were any specific categories, or groupings that could explain the high rate in Nova Scotia. For this purpose, currently existing data in addition to new data were used to investigate the types of disability, the severity levels of disability and data on persons with disabilities residing in health related institutions. The types of disability consisted of Seeing, Hearing, Speaking, Mobility and Agility (see Appendix B for definitions of disability). Table 2, provides the disability rate by the type of disability for Canada and Nova Scotia.

These results show very similar rates for all types of disabilities in Nova Scotia when compared with the average Canadian rates with one exception. In Nova Scotia the disability rate for persons with mobility disabilities was 4.2 percent higher than the Canadian rate. Since the largest group of persons with disabilities consists of persons with mobility disabilities comprising more than one third of all disabilities; the higher rate of mobility disability in Nova Scotia does, in part, explain the higher overall rate in Nova Scotia. These findings were also supported by the study carried out by the Department of Health.

TABLE 2
DISABILITY BY CATEGORY FOR CANADA AND NOVA SCOTIA

TYPE OF DISABILITY	Canada		Nova Scotia	
	TOTAL	%	TOTAL	%
Seeing	519,330	8.4	19,875	7.5
Hearing	1,115,270	18.1	50,675	19.0
Speaking	242,395	3.9	7,920	3.0
Mobility	1,835,895	29.8	90,480	34.0
Agility	1,274,150	20.7	54,150	20.3
Other	942,550	15.3	38,155	14.3
Unknown	228,635	3.7	5,205	2.0

In addition to the type of disability, the level of severity of disability was investigated to determine if the elevated disability rate in Nova Scotia resulted in a higher rate in any particular severity level category (see Appendix D for an explanation of severity levels). The results are given in Table 3 and show that Nova Scotia has a similar or lower disability rate for the mild and severe levels when compared with Canada, however, the moderate levels of disability were 3.2 percent higher than the Canadian average.

TABLE 3

SEVERITY LEVEL OF DISABILITY FOR CANADA AND NOVA SCOTIA

SEVERITY LEVEL	CANADA		NOVA SCOTIA	
	Number	%	Number	%
Mild	1735920	49.2	77275	46.5
Moderate	1160590	32.8	59810	36
Severe	636580	18	29105	17.5
Total	3533090	100%	166190	100%

As a final demographic measure, the study investigated a Canadian versus Nova Scotian comparison of the number of persons with disabilities residing in health related institutions over three different age categories. These results are given in Table 4.

TABLE 4
PERSONS WITH DISABILITIES RESIDING IN HEALTH RELATED INSTITUTIONS FOR CANADA AND NOVA SCOTIA

AGE	CANADA		NOVA SCOTIA	
	Number	%	Number	%
15 - 64 years	49,325	9.4	1,850	11.6
15 years and over	262,240	50.0	7,990	50.0
65 years and over	212,920	40.6	6,145	38.4
Total	524,485	100	15,985	100

Although the rate was 2.2 percent higher in the Nova Scotia for the 15 to 64 years of age category, the number of persons residing in health related institutions was so low when compared with the rest of the province,(i.e. 15, 985 versus 181,000) that it would, in general, have limited impact on the overall disability rate in Nova Scotia.

The Causal Nature of Disability in Nova Scotia

Given that Nova Scotia has a high rate of disability which appears to be at least partly related to a greater number of persons with mobility disabilities; several additional question were investigated in order to identify the possible causal nature of the increased disability rate in Nova Scotia. That is, what were the possible causes or conditions that resulted in the disability? If, for example, preventable health related causes could be identified, the results may have implications for the development of provincial health related policies.

For this purpose, the first analysis consisted of a cross tabulation of the type of disability by the self reported cause or condition that resulted in the disability. The results of the analysis for the combined categories of disabilities are given in Table 5 (see Appendix A, Tables 4-10, for the results of the analysis for each individual type of disability).

TABLE 5
CAUSE OF CONDITION FOR ALL TYPES OF DISABILITIES
FOR CANADA AND NOVA SCOTIA

CAUSE OF CONDITION	CANADA		NOVA SCOTIA	
Existed at birth	344,315	9.7	17,920	10.7
Work environment	409,675	11.5	19,610	11.7
Disease or illness	1,223,850	34.6	59,140	35.5
Natural aging process	811,625	22.9	34,895	20.9
Psychological or physical abuse	64,205	1.8	1,775	1.0
Accident - at home	163,255	4.6	7,315	4.4
Accident - at motor vehicle	174,105	4.9	5,545	3.3
Accident - at work-related	314,895	8.9	13,210	7.9
Other, please specify	393,560	11.1	16,760	10.0
Don't know	350,465	9.9	26,010	15.6
Not stated	432,470	12.2	16,860	10.1

An examination of the results presented in Table 5 shows several interesting findings related to the causes of disability in Nova Scotia as compared to the Canadian average or standard. The results show that disabilities that resulted from the natural aging process; psychological or physical abuse; or accidents that occurred at home, work, or in a motor vehicle; were lower in Nova Scotia than the rest of Canada. However, disabilities that existed at birth; or that were related to diseases or illnesses; or which had an unknown origin as identified by the person with the disability; were significantly higher in Nova Scotia as compared to Canadian average. In fact, persons who reported that they were uncertain as to the cause of their disability were 5.7 percent higher in Nova Scotia.

An examination of the causes or conditions for each individual disability category is provided in Appendix A (Tables 4-10). These tables show that for all types of disabilities in Nova Scotia, (e.g. seeing, hearing, speaking, mobility and agility disabilities), higher rates existed in which the cause of the disability was reported as unknown by the respondents. Higher disability rates were also found in Nova Scotia for speaking related disabilities that resulted from a disease or illness. Of particular interest, higher rates were also observed in the mobility disability category as a result of a disease or illness, conditions that existed at birth or resulted from a work environment created cause. Since approximately one in three persons with a disability in Nova Scotia have a mobility disability, a considerable proportion of the higher disability rate in Nova Scotia can be explained by these results.

In addition to these findings , Table 6 provides an analysis of the causes or conditions that resulted in the disability for all Canadian provinces and territories. These results provide some interesting conclusions about the provincial disability rates across Canada. Although, Nova Scotia has a high rate of disability which is in part do to unknown causes as reported by the respondents, these results were not an uncommon finding across Canada. As reported in Table 6, Prince Edward Island had a higher rate than Nova Scotia with Manitoba and New Brunswick being just slightly lower than the Nova Scotia rate.

A rank ordering of the data presented in Table 6 indicated that Nova Scotia ranked or scored only second or lower when compared with the rest of the Canadian Provinces on all identifiable causes as defined by the Health and Activities Limitation Survey. If these results are accurate, one may wonder why Nova Scotia has the highest disability rate in Canada when ranking only second or lower. The answer appears to be that Nova Scotia, unlike other provinces, has high rates on several key causes which have had significant impact on the largest "mobility" disability group (e.g. disabilities that resulted from diseases or illness; which existed at birth or were of unknown origin). These results it would appear drive up the overall disability rate of the province.

TABLE 6

PERCENTAGE OF PERSONS WITH DISABILITIES BY CAUSE OF DISABILITY FOR CANADA AND PROVINCES

	CA	NS	NF	P E I	NB	PQ	ON	MN	SA	AB	BC	YU	NW
A	9.7	10.7	11.0	10.6	12.1	12.1	8.9	7.5	7.4	9.9	8.8	8.7	8.3
B	11.5	11.7	6.5	9.6	12.6	6.8	12.2	12.9	13.1	10.9	16.5	16.2	6.3
C	34.6	35.5	39.2	37.6	34.2	39.2	35.4	33.7	27.8	30.8	29.7	23.8	24.4
D	22.9	20.9	24.7	17.5	23.7	24.1	21.6	26.9	26.3	23.7	22.9	11.9	17.9
E	1.8	1.0	---	---	2.0	1.4	1.7	2.0	1.2	1.9	3.2	---	3.7
F	4.6	4.4	5.7	4.6	6.3	4.7	4.4	4.8	4.4	5.4	3.6	6.6	7.6
G	4.9	3.3	1.9	4.2	4.0	3.1	5.2	4.2	6.7	6.5	6.1	6.3	4.7
H	8.9	7.9	6.2	9.8	6.7	6.8	10.9	5.3	7.7	9.1	8.4	10.0	7.5
I	11.1	10.0	6.4	10.4	10.9	9.0	11.1	12.6	17.4	10.9	12.9	14.3	14.8
J	9.9	15.6	10.5	15.7	14.1	6.7	9.4	14.5	14.2	9.1	10.5	13.4	14.9
K	12.2	10.1	21.5	12.4	11.0	11.0	13.8	8.1	8.5	13.8	10.6	13.0	17.0

A - Existed at birth B - Work environment C - Diseases or illness D - Natural aging process
E - Psychological or physical abuse F - Accident at home G - Accident at motor vehicle
H - Accident at work related I - Other, please specify J - Don't know K - Not stated

Since it was determined by the geographical analysis that much of the higher disability rate in Nova Scotia existed in the rural areas of the province, an analysis of the rural areas by cause or condition was carried out. These results are given in Table 7. As was found from the previous analysis, Nova Scotia has higher rates of disability which appear to result form diseases or illnesses, which existed at birth or which have an unknown cause. However, an closer examination of Table 7 shows that the margin or difference between the Nova Scotia rates and the Canada rates increased significantly in the disease or illness and existed at birth causes. These results, therefore, provided additional support to the previous findings of the study.

TABLE 7

CAUSE OF DISABILITY FOR RURAL AREAS IN CANADA AND NOVA SCOTIA

RURAL AREAS	CANADA	%	NS	%
Total number of persons	866,445	100.0	76,940	100.0
Existed at birth	95,705	11.0	9,980	12.9
Work environment	136,325	15.7	10,145	13.1
Disease or illness	257,580	29.7	26,815	34.8
Natural aging process	187,550	21.6	15,460	20.0
Psychological or physical abuse	6,650	0.7	--	--
Accident - at home	45,390	5.2	4,090	5.3
Accident - at motor vehicle	33,825	3.9	1655	2.1
Accident - at work-related	85,735	9.8	8,355	10.8
Other, please specify	96,685	11.1	7,750	10.0
Don't know	85,620	9.8	11,620	15.0
Not stated	110,035	12.6	6,810	8.8

Finally, a suggestion which was reported in the study conducted by the Department Heath was that perhaps Nova Scotian physicians tended to be less aggressive regarding post-injury mobilization and rehabilitation when compared with their counterparts in other provinces. This, it was speculated, resulted in higher disability rates as indicated by an increase in the number of Workers Compensation Board claims. However, the results of this study did not support this view. The results given in Table 6 indicate that Nova Scotia ranks only sixth highest in Canada for workplace injuries. In addition, Table 8 provides data collected from the National Work Injuries Statistics Program which indicates that Nova Scotia actually has one of the lowest time loss injury rates in Canada. As indicated in Table 7, the Nova Scotia rate actually deceased slightly between 1986 and 1991.

TABLE 8

NUMBER OF TIME-LOSS INJURIES PER 100,000
BY PROVINCE, 1986 AND 1991

	1986	1991
TOTAL NUMBER OF PERSONS	17,051,420	2860
Nova Scotia	2192	2138
Newfoundland	2365	2466
Prince Edward Island	2397	2716
New Brunswick	2128	2426
Quebec	4746	3788
Ontario	3159	2284
Manitoba	3507	2664
Saskatchewan	2550	2285
Alberta	2641	2293
British Columbia	3210	3687

SUMMARY AND CONCLUSIONS

The results of this study support and extend the findings of the study conducted by the Department of Health. Regarding the disability rate in Nova Scotia, this study found through the examination of four different methodologies convincing evidence that Nova Scotia does have the highest disability rate in Canada. However measured, disability is in fact more common in Nova Scotia than in the rest of Canada.

Although one would expect variation in the rate of disability across the province, the results of this study found that Nova Scotia has extreme regional differences in the disability rate. Areas such as Cape Breton (the Sydneys) and Southwest Nova were almost double the average Canadian rate. In contrast, Dartmouth and Halifax West were four percent lower than the Canadian average. These results clearly have significant implications for the development and allocation of program resources for persons with disabilities in Nova Scotia.

Regarding the demographic makeup of disability in Nova Scotia, the study found that in comparison to the Canadian data, Nova Scotia had a significantly higher rate of mobility disability. All other types of disability as defined by Statistics Canada were similar to or slightly below the Canadian average rate. Although disability increases with age, no significant differences were observed in different age grouping between Nova Scotia and Canada. These results were consistent with the results of the study carried out by the Department of Health. In addition, an analysis of disability by age and geographical area in Nova Scotia showed no significant difference between Nova Scotia and Canada.

The disability severity level was also investigated in the study. The results indicated that Nova Scotia had lower disability rates which were classified as mild in nature, however, moderately severe levels were significantly higher than the Canadian average.

As a final demographic measure, the study investigated the number of persons with disabilities residing in health related institutions over three different age categories. Although the rate was 2.2 percent higher in the Nova Scotia for the 15 to 64 years of age category, the number of persons residing in health related institutions was so low when compared with the rest of the province that it would, in general, have limited impact on the overall disability rate in Nova Scotia.

In addition to demographic factors, the study attempted to identify the possible causes or conditions that resulted in the existing disability. These results indicated that disabilities that resulted from the natural aging process; psychological or physical abuse; accidents that occurred at home, work, or in a motor vehicle; were lower in Nova Scotia than the rest of Canada. However, disabilities that were related to diseases or illnesses; existed at birth; or which had an unknown origin; were significantly higher in Nova Scotia as compared to Canadian average. In fact, persons who reported that they were uncertain as to the cause of their disability were 5.7 percent higher in Nova Scotia.

For individual types of disabilities in Nova Scotia, (e.g. seeing, hearing, speaking, mobility and agility disabilities), higher rates existed in which the cause of the disability was reported as unknown by the respondents. Higher disability rates were also found in Nova Scotia for the speaking related disabilities that resulted from a disease or illness. Of particular interest, higher rates were observed in the mobility disability category as a result of a disease or illness; or conditions that existed at birth. Since approximately one in three persons with a disability in Nova Scotia have a mobility disability, a considerable proportion of the higher disability rate in Nova Scotia can be explained by these results.

In addition, the study found that Nova Scotia ranked only second or lower in comparison to other provinces in Canada on all identifiable causes of disability. If this is corrected, one may ask why does Nova Scotia have such a high rate of disability? The answer appears to be that Nova Scotia, unlike other provinces, has high rates on several key causes which effect the largest "mobility" disability group. These results it would appear drive up the overall disability rate of the province.

Since it was determined by the geographical analysis that much of the higher disability rate in Nova Scotia existed in the rural areas of the province, an analysis of the rural areas by cause or condition was carried out. The results revealed even higher rates in the mobility disability category as a result of a disease or illness, or conditions that existed at birth. These results provided additional support to the overall conclusions of the study.

Finally, a suggestion which was reported in the study conducted by the Department Heath was that perhaps Nova Scotian physicians tended to be less aggressive regarding post-injury mobilization and rehabilitation when compared with their counterparts in other provinces. This, it was speculated, resulted in higher disability rates as indicated by an increase in the number of Workers Compensation Board claims. However, the results of this study did not support this view. The results found that Nova Scotia ranks only sixth highest in Canada for workplace injuries. In addition, data collected from the National Work Injuries Statistics Program indicated that Nova Scotia actually has one of the lowest time loss injury rates in Canada and that the rate actually deceased slightly between 1986 and 1991.

Although this study has provided some interesting new information about persons with disabilities in Nova Scotia, many questions remained unanswered. Although the data indicated that the increased rates of disability in Nova Scotia were in part related to diseases or illness or conditions which existed at birth, it was not possible to identify the types of diseases or "existing at birth" conditions. This information was simply not available from the Health and Activities Limitation Survey. Without more specific information it is difficult to define a clear plan of action or formulated a strategy to facilitate diagnosis, prevention, rehabilitation, and other services so essential to persons with disabilities in Nova Scotia. Further investigation utilizing other data sets such as the National Population Health Survey may help to further our understanding of the causes of disability in Nova Scotia. The identification of underlying illness and birth related conditions would help in facilitating a clear health strategy for persons with disabilities in Nova Scotia.

RECOMMENDATIONS

Considering the high rate of disability in Nova Scotia and the expected increase in the rate of disability during the next decade, an understanding of the causes and occurrences of disability in Nova Scotia is essential in developing programs and policies for persons with disabilities. Considering these facts and the results of the study, it is recommended that:

- The Health and Activities Limitation Survey should include questions which would help to identify the reasons and causes for the regional differences in the rate of disability. This information would be vital in developing Health related programs and policies for persons with disabilities.

- That the sample size of the Health and Activities Limitation Survey be large enough for provinces such as Nova Scotia to provide for meaningful cross-tabulations and statistical analysis that would provide appropriate and useful information from the data for program planning in Nova Scotia.

- It is recommended that Statistics Canada ensure that the Health and Activities Limitation Survey be carried out following every census period in Canada. Since the Health and Activities Limitation Survey was not carried out in 1996, the most current information in Canada is for the year 1991.

- It is recommended that Statistic Canada develop more inclusive definitions of disability for the purpose of the Health and Activities Limitation Survey. Identification of mental disabilities, developmental disabilities and learning disabilities would be helpful in understanding other possible causes for the high rate of disability in Nova Scotia.

- Since this study found that the high rate of disability in Nova Scotia is in part a result of disease, illness and conditions existing at birth, that the Department of Health continue to investigate possible causal mechanisms of disability in Nova Scotia by researching other data bases such as the National Population Health Survey.

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APPENDIX A
ADDITIONAL TABLES

TABLE 1

POPULATION OF NOVA SCOTIA, 14 YEARS AND UNDER, FOR FEDERAL ELECTORAL AREAS

14 years and under

AREA	TOTAL		DISABLED		NON-DISABLED	
Nova Scotia	181,500	100.0	15,275	8.4	166,230	91.5
Annapolis Valley Hants	21,325	100.0	1,810	8.4	19,515	91.5
Cape Breton East Richmond	8,355	100.0	690	8.2	7,665	91.7
Cape Breton Highlands-Canso	15,790	100.0	1,045	6.5	14,750	93.4
Cape Breton The Sydneys	14,115	100.0	1,100	7.7	13,015	92.2
Central Nova	13,480	100.0	1,090	8.0	12,390	91.9
Cumberland Colchester	12,180	100.0	735	6.0	11,450	93.9
Dartmouth	23,475	100.0	1,900	8.0	21,575	91.9
Halifax	13,665	100.0	1,315	9.6	12,350	90.3
Halifax West	28,630	100.0	2,025	7.0	26,600	92.9
South Shore	16,065	100.0	1,455	9.0	14,610	90.9
South West Nova	14,425	100.0	2,110	14.6	12,310	85.3

TABLE 2

POPULATION OF NOVA SCOTIA, 15 TO 64 YEARS OF AGE, FOR FEDERAL ELECTORAL AREAS

15 to 64 years

AREA	TOTAL		DISABLED		NON-DISABLED	
Nova Scotia	593,400	100.0	106,285	17.9	487,110	82.0
Annapolis Valley Hants	70,665	100.0	14,385	20.3	56,280	79.6
Cape Breton East Richmond	48,570	100.0	11,675	24.0	36,895	75.9
Cape Breton Highlands-Canso	27,215	100.0	4,455	16.3	22,765	83.6
Cape Breton The Sydneys	34,620	100.0	8,855	25.5	25,770	74.4
Central Nova	62,865	100.0	11,890	18.9	50,970	81.0
Cumberland Colchester	59,860	100.0	11,725	19.5	48,130	80.4
Dartmouth	79,460	100.0	9,810	12.3	69,650	87.6
Halifax	65,550	100.0	8,895	13.5	56,660	86.4
Halifax West	70,190	100.0	8,075	11.5	62,115	88.4
South Shore	50,760	100.0	11,585	22.8	39,175	77.1
South West Nova	23,650	100.0	4,935	20.8	18,715	79.1

TABLE 3

POPULATION OF NOVA SCOTIA, 65 YEARS AND OVER, FOR FEDERAL ELECTORAL AREAS

65 years and over

AREA	TOTAL		DISABLED		NON-DISABLED	
Nova Scotia	106,105	100.0	59,910	56.4	46,195	43.5
Annapolis Valley Hants	13,590	100.0	7,600	55.9	--	--
Cape Breton East Richmond	--	--	2,175	96.7	--	--
Cape Breton Highlands-Canso	17,600	100.0	7,900	44.8	9,700	55.1
Cape Breton The Sydneys	10,885	100.0	7,705	70.7	--	--
Central Nova	18,065	100.0	10,095	55.8	7,970	44.1
Cumberland Colchester	13,105	100.0	7,870	60.0	--	--
Dartmouth	--	--	--	--	--	--
Halifax	6,470	100.0	2,315	35.7	--	--
Halifax West	--	--	--	--	--	--
South Shore	7,885	100.0	5,065	64.2	--	--
South West Nova	11,425	100.0	7,015	61.3	--	--

TABLE 4

CAUSE OF CONDITION FOR PERSONS WITH A SEEING DISABILITY FOR CANADA, NOVA SCOTIA AND THE REST OF CANADA

SEEING DISABILITY	CANADA		NOVA SCOTIA		REST OF CANADA	
Total number of persons	510,755	100.0	20,550	100.0	490,200	100.0
Existed at birth	48,440	9.4	2,095	10.1	46,350	9.4
Work environment	6,990	1.3	--	--	6,500	1.3
Disease or illness	171,740	33.6	6,680	32.4	165,060	33.6
Natural aging process	169,155	33.1	6,460	31.4	162,695	33.1
Psychological or physical abuse	1,005	0.1	--	--	980	0.1
Accident - at home	7,360	1.4	--	--	7,050	1.4
Accident - at motor vehicle	5,445	1.0	410	1.9	5,035	1.0
Accident - at work-related	7,810	1.5	--	--	7,565	1.5
Other, please specify	32,515	6.3	900	4.3	31,615	6.4
Don't know	31,575	6.1	1,635	7.9	29,940	6.1
Not stated	37,295	7.3	1,695	8.2	35,600	7.2

TABLE 5

CAUSE OF CONDITION FOR PERSONS WITH A HEARING DISABILITY FOR CANADA, NOVA SCOTIA AND THE REST OF CANADA

HEARING DISABILITY	CANADA		NOVA SCOTIA		REST OF CANADA	
Total number of persons	1,076,555	100.0	50,175	100.0	1,026,375	100.0
Existed at birth	73,195	6.7	3,115	6.2	70,080	6.8
Work environment	234,395	21.7	9,910	19.7	224,480	21.8
Disease or illness	170,265	15.8	7,945	15.8	162,315	15.8
Natural aging process	315,460	29.3	12,355	24.6	303,105	29.5
Psychological or physical abuse	10,620	0.9	--	--	10,520	1.0
Accident - at home	11,985	1.1	--	--	11,780	1.1
Accident - at motor vehicle	10,865	1.0	--	--	10,600	1.0
Accident - at work-related	30,620	2.8	1,630	3.2	28,985	2.8
Other, please specify	82,250	7.6	2,900	5.7	79,350	7.7
Don't know	97,460	9.0	9,690	19.3	87,770	8.5
Not stated	78,155	7.2	3,130	6.2	75,025	7.3

TABLE 6

CAUSE OF CONDITION FOR PERSONS WITH A SPEAKING DISABILITY FOR CANADA, NOVA SCOTIA AND THE REST OF CANADA

SPEAKING DISABILITY	CANADA		NOVA SCOTIA		REST OF CANADA	
Total number of persons	242,395	100.0	9,575	100.0	232,815	100.0
Existed at birth	79,405	32.7	2,620	27.3	76,785	32.9
Work environment	3,945	1.6	--	--	3,675	1.5
Disease or illness	69,280	28.5	3,450	36.0	65,825	28.2
Natural aging process	15,160	6.2	--	--	14,400	6.1
Psychological or physical abuse	6,285	2.5	--	--	6,000	2.5
Accident - at home	2,510	1.0	--	--	2,485	1.0
Accident - at motor vehicle	4,840	1.9	--	--	4,765	2.0
Accident - at work-related	4,340	1.7	--	--	4,210	1.8
Other, please specify	19,310	7.9	440	4.6	18,860	8.1
Don't know	25,220	10.4	1,410	14.7	23,810	10.2
Not stated	12,100	4.9	--	--	11,990	5.1

TABLE 7

CAUSE OF CONDITION FOR PERSONS WITH A MOBILTIY DISABILITY FOR CANADA, NOVA SCOTIA AND THE REST OF CANADA

MOBILITY DISABILAITY	CANADA		NOVA SCOTIA		REST OF CANADA	
Total number of persons	2,091,625	100.0	102,660	100.0	1,988,965	100.0
Existed at birth	88,940	4.2	6,590	6.4	82,355	4.1
Work environment	105,920	5.0	5,550	5.4	100,370	5.0
Disease or illness	650,205	31.0	33,430	32.5	616,775	31.0
Natural aging process	286,190	13.6	13,900	13.5	272,290	13.6
Psychological or physical abuse	7,845	0.3	--	--	7,285	0.3
Accident - at home	94,670	4.5	4,460	4.3	90,205	4.5
Accident - at motor vehicle	99,485	4.7	2,405	2.3	97,085	4.8
Accident - at work-related	159,810	7.6	6,655	6.4	153,145	7.6
Other, please specify	130,625	6.2	5,700	5.5	124,925	6.2
Don't know	99,105	4.7	7,085	6.8	92,020	4.6
Not stated	113,100	5.4	4,705	4.5	108,400	5.4

TABLE 8

CAUSE OF CONDITION FOR PERSONS WITH AN AGILITY DISABILITY FOR CANADA, NOVA SCOTIA AND THE REST OF CANADA

AGILITY DISABILITY	CANADA		NOVA SCOTIA		REST OF CANADA	
Total number of persons	1,904,325	100.0	97,550	100.0	1,806,775	100.0
Existed at birth	58,660	3.0	2,455	2.5	56,210	3.1
Work environment	93,800	4.9	4,070	4.1	89,730	4.9
Disease or illness	422,860	22.2	19,980	20.4	402,880	22.2
Natural aging process	173,655	9.1	5,305	5.4	168,355	9.3
Psychological or physical abuse	3,880	0.2	--	--	3,775	0.2
Accident - at home	71,745	3.7	3,385	3.4	68,355	3.7
Accident - at motor vehicle	82,665	4.3	2,410	2.4	80,255	4.4
Accident - at work-related	162,320	8.5	6,165	6.3	156,150	8.6
Other, please specify	77,055	4.0	3,660	3.7	73,395	4.0
Don't know	52,705	2.7	3,960	4.0	48,745	2.6
Not stated	74,805	3.9	2,760	2.8	72,045	3.9

TABLE 9

CAUSE OF CONDITION FOR PERSONS WITH OTHER DISABILITIES FOR CANADA, NOVA SCOTIA AND THE REST OF CANADA

OTHER DISABILITIES	CANADA		NOVA SCOTIA		REST OF CANADA	
Total number of persons	1,061,925	100.0	43,155	100.0	1,018,765	100.0
Existed at birth	116,840	11.0	3,745	8.6	113,095	11.1
Work environment	22,470	2.1	1,155	2.6	21,315	2.0
Disease or illness	208,660	19.6	7,955	18.4	200,705	19.7
Natural aging process	204,265	19.2	9,080	21.0	195,185	19.1
Psychological or physical abuse	41,145	3.8	1,110	2.5	40,040	3.9
Accident - at home	9,385	0.8	--	--	9,025	0.8
Accident - at motor vehicle	33,465	3.1	595	1.3	32,870	3.2
Accident - at work-related	29,435	2.7	430	0.9	29,000	2.8
Other, please specify	95,290	8.9	5,150	11.9	90,140	8.8
Don't know	110,800	10.4	6,670	15.4	104,130	10.2
Not stated	70,795	6.6	2,265	5.2	68,530	6.7

TABLE 10

CAUSE OF CONDITION FOR PERSONS WITH UNKNOWN DISABILITIES FOR CANADA, NOVA SCOTIA AND THE REST OF CANADA

UNKNOWN DISABILITIES	CANADA		NOVA SCOTIA		REST OF CANADA	
Total number of persons	232,340	100.0	8,785	100.0	223,555	100.0
Existed at birth	16,775	7.2	880	9.9	15,900	7.1
Work environment	11,935	5.1	--	--	11,525	5.1
Disease or illness	61,610	26.5	1,940	22.0	59,670	26.6
Natural aging process	6,520	2.8	--	--	6,180	2.7
Psychological or physical abuse	--	--	--	--	--	--
Accident - at home	9,100	3.9	--	--	8,555	3.8
Accident - at motor vehicle	17,865	7.6	--	--	17,055	7.6
Accident - at work-related	25,465	10.9	--	--	24,940	11.1
Other, please specify	42,040	18.0	--	--	41,825	18.7
Don't know	13,425	5.7	--	--	12,680	5.6
Not stated	23,900	10.2	2,385	27.1	21,515	9.6

APPENDIX B
CATEGORIES OF DISABILITY

DISABILITY CATEGORIES

DISABILITIES:

Mobility: limited in the ability to walk, move from room to room, carry an object for 10 meters, or stand for long periods.

Agility: limited in ability to bend, dress or undress oneself, get in and out of bed, cut toenails, use fingers to grasp or handle objects, reach, or cut one's own food.

Seeing: limited in the ability to see newsprint or to see someone from 4 meters, even when wearing corrective glasses.

Hearing: limited in the ability to hear what is being said in a conversation with one or more people, even when wearing a hearing aid.

Speaking: limited in the ability to speak and be understood.

Other: limited because of a learning disability, a mental health condition, a mental handicap, or because of labeling by others.

APPENDIX C
DEFINITIONS OF DISABILITY

DISABILITY DEFINITIONS

In 1980, the World Health Organization (WHO) published International Classifications of Impairments, Disabilities and Handicaps. The House of Commons Special Committee on the Disabled and the Handicapped accepted the WHO terminology in its report, Obstacles, as has the National Library of Canada for its own program.

IMPAIRMENT is a generic term that embraces any disturbance or interference with the normal structure and functioning of the body, including mental function. Blindness, for example, is a visual impairment, and quadriplegia is a motor impairment. In principle, impairment reflects disturbances at the level of the organ.

DISABILITY is the loss or reduction of functional ability and activity that is consequent upon impairment. Blindness, for example, reduces or eliminates a person's ability to read print. Quadriplegia reduces a person's ability to hold a book or turn its pages.

HANDICAP is the disadvantage that is consequent upon impairment and disability. It represents the social and environmental consequence to the individual, stemming from impairment and disability. Blind persons are handicapped by the fact that much information is available in printed books, which they cannot see to read. Their handicap can be over come if books are recorded on tape, or print in braille, or read out loud. Quadriplegic persons may be handicapped by physical barriers which prevent their entering a library, or reaching books stored on high shelves, or by their inability to turn pages. The handicap can be overcome by access ramps, low shelves and automatic page - turners.

APPENDIX D
SEVERITY LEVELS OF DISABILITY

DISABILITY SEVERITY LEVELS

SEVERITY LEVELS DEFINED:

A severity scale for adults has been developed by Statistics Canada using the responses to the screening questions. The scoring was first derived by adding together the individual severity scores of all screening questions, counting one point for each partial loss of function and two points for each total loss of function (i.e., a complete inability to perform a function). The total score was then categorized as follows:

mild	-	less than 5 points
moderate	-	5 to 10 points
severe	-	11 or more points

The category "severe" is further divided as follows for persons with disabilities living in health care institutions:

level 1	-	11 to 17 points
level 2	-	18 to 25 points
level 3	-	26 to 42 points

In deriving a score to measure the disability of children, a point is given each time a "yes" answer is given to one of a series of questions on the HALS survey. The score is then calculated by adding all the points and categorized as follows:

mild	-	1 to 2 points
moderate	-	3 to 4 points
severe	-	5 or more points

APPENDIX E
DEFINITIONS OF WORK INJURIES AND DISEASES

WORK INJURIES AND DISEASES TERMS DEFINED:

Injury and Disease (Injury): An injury is an injury or disease resulting from a work related accident or exposure to a noxious substance.

Nature of injury or disease: The principal physical characteristics of an injury.

Part of body injured: The part of the body directly affected by an injury.

Source of injury or diseases: The object, substance, exposure, or bodily motion that directly inflicted the injury.

Type of injury event: The event that directly resulted in the injury.

Time-loss injury: A time-loss injury is an injury where an employee is compensated for a loss of wages following a work related accident (or exposure to a noxious substance), or receives compensation for a permanent disability with or without any time lost in his or her employment.

Fatality: A fatality is a death resulting from a work related incident that has been accepted for compensation by a board.